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7/21/01

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUL 27 2001

REPLY TO THE ATTENTION OF: SE-5J

VIA FACSIMILE (773) 728-0145
AND U. S. MAIL

Ms. Laurie Bain, President
Bain Environmental
5315 North Clark, Suite 144
Chicago, Illinois 60640

RE: Kieffer Building, Chicago, Illinois

Dear Ms. Bain:

This letter responds to your letter dated June 5, 2001, in which you stated U.S. EPA was notified of the date you would make borings but U.S. EPA failed to appear on-site on the appointed date. My colleague, Mr. Fred Micke, U.S. EPA On-Scene Coordinator, faxed a letter to Benchmark Environmental indicating that he would observe the borings on October 18, 2000 at the Kieffer Building. Later, Mr. Micke telephoned that he would not be observing. During the week of October 17, 2000, I was on vacation.

Below is a list of reports that we currently have in our possession. These reports were sent to us by Mr. Troy Imke of Mark Goodman & Associates on October 6, 2000. A copy of the transmittal letter is enclosed.

1. Phase I Environmental Assessment preformed by Bain Environmental (Bain Project # 000407794)
2. Phase II Investigation Exterior Radiological Survey performed by Bain Environmental (Bain Project # 000621864)
3. Phase II Subsurface Investigation performed for Bain Environmental dated August 15, 2000 (Benchmark Project # 00299B)
4. Phase II Investigation/Radiological Survey performed for Bain Environmental dated August 14, 2000 (Benchmark Project # 00299A)

As you will see from this list, U.S. EPA does not have a copy of the boring work performed on October 18, 2000. Please provide this report within 14 days of receipt of this letter.

Addressing your comments on our letter dated April 4, 2001 to Mr. Troy Imke, beginning with the third paragraph:

First, the intent of the access letters was not to be open-ended. We do not enter a specific date because we do not know when the person will grant us access. Please feel free to add a specific date or language like "access will terminate once U.S. EPA retrieves the radon monitors, etc".

Secondly, the sentence, ".. shielding by asphalt, concrete, bricks, stored equipment, stored inventory, etc. can reduce count rates and emissions from any underlying radioactive material" is merely to let you know the limitations of the survey and that it is not necessary to remove all items from the building prior to the survey. The only disadvantage to leaving items in place is the possibility we may not detect an anomaly.

For ease of discussion, your six questions are highlighted below in boldface:

1. **What will be measured?**

Our anticipated plan is to survey for gamma count rate, radon-220 gas, radon-222 gas, exposure rate, and dose rate. If beneficial, other measurements may also be taken.

2. **What instruments and methods will be used?**

U.S. EPA expects to use count rate meters, radon monitors, exposure rate meters, and dose rate meters. If other meters or devices would help to better characterize the situation, these could be used as well.

We anticipate scanning the building with immediate reading hand held count rate meters, measuring the count rate on floors and, if necessary, walls and ceilings.

We would leave monitors for radon-220 and radon-222, probably a pair per floor, in locations where the general airborne environment can be measured. These are small, passive devices that are read with a voltmeter on-site. The exposure or dose rate would be measured with hand held meters at the location of the radon monitors. Calculations would be done based upon protocols of the vendor.

The exposure or dose rate could be measured at other locations that would provide the information necessary to project dose or risk. These would be by immediate reading hand held meters.

Other measurements may help to characterize the radiological conditions of this building. One might be smears that would assess loose material. These would be rubs across a surface with small pieces of paper that would be read with a gross alpha and/or gross beta scaler off-site. Another might be hand held multi-channel detectors to identify the specific radionuclides present. These would be placed close to the area of concern for a few minutes while gamma emissions are collected and processed.

3. **What regulations are to be applied?**

Radioactive isotopes such as the thorium associated with Lindsay Light operations are hazardous substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act commonly called "Superfund." The U.S. EPA conducts surveys such as this using its

regulatory authority under this law. When U.S. EPA determines that there is a release or threat of release of a hazardous substance that may endanger human health or the environment, the law requires that the chosen management standards and cleanup levels to abate the release or threat of release must be protective, based upon a site-specific risk assessment, and consistent with applicable or relevant and appropriate state and federal laws (ARARs). In addition since conditions vary widely, ARARs alone may not adequately protect human health and the environment. When the ARARs are not fully protective, EPA may consider policies, guidelines or proposed rules capable of reducing risks. These are requirements "To Be Considered" or TBCs. U.S. EPA identifies the ARARs and TBC guidelines in consultation with other state and federal agencies to determine which other laws should be considered and which specific requirements should be met.

A detailed list is provided in our response to your fourth question.

4. **With what standards in the regulations will the measurements be compared?**

Count rate will be used to assess consistency and variation of the gamma ray levels within the building. This will aid in focusing on what is normal and what is anomalous, for the purpose of further assessments. There are no standards that will be applied to exposure rate.

Dose rate will be measured and may be used (1) for comparison to the indoor gamma radiation level of Title 40, Part 192.12(b)(2) [or 40 CFR 192.12(b)(2)], (2) to compute the associated risk for comparison to the excess upper bound lifetime cancer risk range of the National Oil and Hazardous Substances Pollution Contingency Plan at 40 CFR 300.430(e), (3) to compute the annual dose for comparison to the effective dose equivalent limit of OSWER Directive No. 9200.4-18 or (4) to compute the total effective dose equivalent standard for individual members of the public found in 10 CFR 20.1301or the equivalent in 32 Illinois Administrative Code: Chapter II. These are, respectively, 20 microroentgens per hour over background; 10^{-6} to 10^{-4}; 15 millirem per year, over background; and 0.1 rem per year, over background.

Radon-222 concentrations may be compared to (1) the U.S. Environmental Protection Agency's indoor guideline of 4 picocuries per liter or (2) to the effluent concentration of 10 CFR 20, Appendix B, Table 2, Column 1, with daughters present, namely 1E-10 microcuries per milliliter. Radon-222 decay product concentrations may be compared to the indoor remedial action concentration listed in 40 CFR 192.12(b)(1) of 0.02 working levels.

Radon-220 concentrations may be compared to (1) the equivalent of 4 picocuries per liter radon-222 or (2) to the effluent concentration of 10 CFR 20, Appendix B, Table 2, Column 1, with daughters present, namely 3E-11 microcuries per liter. Radon-220 decay product concentrations may be compared to 0.02 working levels, based upon 40 CFR 192.41(a)(b) and recommendations of U.S. EPA Headquarters.

Combined radon-222 and radon-220 concentrations or decay product concentrations will be based upon the Rule of Ratios, based upon U.S. EPA Headquarters recommendations.

Loose contamination will be judged against the guidelines of the Nuclear Regulatory Commission's Regulatory Guide 1.86.

Depending upon the survey results, there may be a need to evaluate measured levels against other appropriate standards, criteria or guidelines.

5. **What is the significance of not meeting a numerical standard?**

If standards, criteria or guidelines are not met, the U.S. Environmental Protection Agency will evaluate the results in consultation with the Agency for Toxic Substances and Disease Registry and make a recommendation to the City of Chicago with regard to the public health risk and whether that may constitute an imminent and substantial endangerment. We may also inform the Occupational Safety and Health Administration (OSHA) if it appears their regulations might be exceeded.

If a determination is made that there is a public health risk, there may be a need for corrective action.

6. **If the regulations and standards of another agency such as the Illinois Department of Nuclear Safety (IDNS), US NRC, or OSHA are applied, will that agency be involved in making measurements? If not, why are these agencies not involved in measurements made to determine compliance with their standards**?

As previously stated, U.S. EPA routinely identifies the ARARs and TBC guidelines in consultation with other state and federal agencies to determine which other laws should be considered and which specific requirements should be met. The IDNS has provided U.S. EPA with a list of state ARARS and TBCs. (Note that Illinois is a Nuclear Regulatory Commission Agreement State and the IDNS regulations supplant the NRC regulations in Illinois.) In addition, it is U.S. EPA's ongoing practice to regularly inform both the IDNS and OSHA about the radiation surveillance activities in Streeterville, invite these agencies to participate in the investigations, and share surveillance results with them. To date, IDNS has declined to participate in the investigations. Where an initial investigation revealed elevated radiation levels, OSHA has participated in followup investigations. It is standard practice for U.S. EPA and its representatives to take all manner of measurements (following appropriate quality assurance protocols) to determine compliance with environmental regulations, without the direct participation of the state or federal regulatory agency charged with enforcement and compliance authority. In many instances it would be an unnecessary duplication of effort and waste of resources for multiple agencies to take measurements.

I hope that this letter adequately answers your questions. If you need to discuss this matter further, please contact me at (312) 886-3601, or Fred Micke, On-Scene Coordinator, at (312) 886-5123 or Larry Jensen, Senior Health Physicist, at (312) 886-5026. Please direct any legal questions to Mary Fulghum, Associate Regional Counsel, at (312)886-4683 or Cathleen Martwick, Associate Regional Counsel, at (312) 886-7166.

Sincerely,

Verneta Simon

Verneta Simon
On-Scene Coordinator

Enclosure

cc: Naren Prasad, City of Chicago - Department of Environment, w/enclosure
Benet Haller, City of Chicago - Department of Planning and Development, w/enclosure
Barbara Smith, OSHA, w/enclosure
Richard Allen, Illinois Department of Nuclear Safety, w/enclosure

Mark
Goodman
&
Associates
Inc.

October 6, 2000

Ms. Verneta Simon
On-Scene Coordinator
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Re: 160 E. Illinois

Dear Ms. Simon:

We purchase the above reference property form Mr. Don Kieffer on September 11, 2000. Due diligence was performed before closing on the property. Environmental reports were part of that process. Enclosed you will find the following reports:

Phase I Environmental Assessment
Phase II Investigation Exterior Radiological Survey
Phase II Subsurface Investigation
Phase II Investigation / Radiological Survey

Please feel free to contact me if you have any questions.

Sincerely,

MARK GOODMAN & ASSOCIATES, INC.

Troy D. Imke
Vice President

Olympia Centre, 737 N. Michigan Avenue, Suite 2350, Chicago, IL 60611, (312) 280-8030, FAX (312) 280-7998

bcc: Mary Fulghum, C-14J, w/enclosure
Larry Jensen, SE-5J, w/enclosure
Derrick Kimbrough, SE-5J, w/enclosure
Cathleen Martwick, C-14J, w/enclosure
Fred Micke, SE-5J, w/enclosure
Linda Nachowicz, SE-5J, w/enclosure